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Mini-Motor Monster Truck

Most monster truck projects don't start with tires, but Chris Floerkey's did. When he saw a pair of 5-ft. tall fat tires for only \$165 at a local auction, it was too good a deal to pass up. Finding a use for them was the challenge.

"I looked at my project trucks, thinking I could put them on one," says Floerkey. "I mounted them on my little Mazda pickup truck, and everyone who saw it grinned ear-to-ear."

The repower required cutting out the hub pattern on the 26-in. wheels and welding the 15-in. Mazda hubs into place. He also used the same clutch rebuilding process that he had developed for repowering his Farmall H.

Floerkey has a YouTube channel for videos of projects he undertakes. Most of them involve repowering cars, a tractor (Vol. 49, No. 3) and the Mazda with Predator go-cart engines. The big wheel Mazda video was successful enough that it paid for the wheels. It gave him the incentive to go big on all four wheels.

This time, a pair of used fat tires set him back \$1,500. However, he quickly realized he would have to cut away too much of the cab to make room for the oversized front wheels.

"I had an old Ford F350 wrecker that belonged to my granddad," says Floerkey. "The body was eaten up, but the heavy-duty

frame was still good. I got rid of the old wrecker bed and scrapped the cab too."

He repowered the big Ford with a 6 1/2-hp Predator 212 engine. As with the Mazda, he mounted the F350 hubs in the 26-in. wheels and rebuilt the clutch to mount a chain drive from the Predator driveshaft to the F350 drive.

"I built a platform big enough for a seat and mounted a new firewall on the original brake system, minus the booster," says Floerkey. "I kept the original steering, but knew it would be impossible to turn with the big tires. I ran a power steering pump off the input shaft of the Predator, and it worked flawlessly."

While it topped out at 18 mph on the flat, it couldn't crawl up a small hill, so Floerkey fired up his video camera again. This time, he swapped out the Predator for an 18-hp DuroMax 440.

With the DuroMax, the top speed was around 24 mph. While satisfied, Floerkey was curious about trying a larger Predator. He picked up a Predator 459. While about 2 hp less than the DuroMax, he found little difference in how it ran.

To see details on the build, as well as further modifications Floerkey has planned for the monster truck, check out his YouTube video channel. To date, he has posted 259 videos and has 26,400 subscribers.

Contact: FARM SHOW Followup, Chris Floerkey, Danville, Ala. (ph 256-303-0696; ckeyfarm@gmail.com; YouTube: Keyfarm).



Roof from an old golf cart was bolted to the frame of ZTR, providing shade from the sun.

ZTR Has A Golf Cart Roof

Larry Wood from Waldo, Ohio, wanted a roof for his Kubota ZD21 mower. He got a roof from a golf cart from a friend and decided to use it on his Kubota.

"I bolted the roof to the original tool bar. It turned out great," says Wood. He noted that he saw used ones available online for as little as \$50.

The golf cart roof is lightweight and provides good shade. Wood noted that it only takes four bolts to remove the roof.



Through the course of the day, the entire rack rotates to a horizontal plane at midday and faces west in a near-vertical plane at sunset.

Solar Panels Used As Shelterbelt

When Tibor Hegedus saw snowdrift fences while on a family vacation, he envisioned an ideal rack for solar panels. He calls the concept a Dynamic Agrivoltaic Shelterbelt. For 18 mos., starting in 2021, he had a test site in place alongside I-80 in Wyoming.

For the past year, the 100-ft. long set of 5-ft. long solar panels has been in place on Roy Pfaltzgraff's northeastern Colorado farm.

"We have 7-in. wide horizontal panels with 7-in. spacing between them," says Hegedus. "The intelligent control system tracks the

sun at lower wind speeds, but moves into a vertical position when the wind gets to a pre-set speed. We have Roy's set at less than 15 mph wind speed. At that point, it acts as a windbreak with 45% porosity. It also captures blowing snow and creates its own microclimate downwind."

The panel rack is 12 ft. tall when vertical. At sunrise, it faces east in a vertical or near-vertical position. Through the course of the day, the entire rack rotates to a horizontal plane at midday and faces west in a near-vertical plane at sunset. Hegedus projects that the 100-ft. of panels will produce about 11,000 kW of electricity per year. He estimates the cost in commercial production at around \$20,000.

The panels are designed to handle 120 mph winds. Hegedus has placed weather stations and soil moisture sensors downwind from the panels to evaluate the microclimate they create. The impact on crops shielded from high winds has been significant, suggests Pfaltzgraff.

"We have the weather stations and soil monitors at 40, 80 and 120 ft. downwind as well as 40 ft. upwind," he says. "The first year I saw the data collected, I couldn't believe it. At 120 ft., the crop used 30% less water, and at 40 ft., it used 50% less water. In our low rainfall area, that's like moving the farm 150 miles east."

Pfaltzgraff reports the panels stood up to 90 mph winds twice in the first year and sustained 60 mph winds for three days.

"At low wind speeds, we saw a 25% wind

speed reduction at 120 ft. out," reports Pfaltzgraff. "At higher windspeeds, the reduction was 25 to 30%."

Unfortunately, the panels couldn't prevent a hailstorm from wiping out the millet crop planted in the field. While Pfaltzgraff captured no yield numbers, the plants that did survive tested 17% higher in micronutrients than sheltered plants.

"This year I planted the field to camelina," says Pfaltzgraff. "I expect it to test out higher in oil content."

Hegedus is considering expanding the site at Pfaltzgraff's farm. Pfaltzgraff is frustrated that his power company won't buy the electricity from him. The two are looking at alternatives.

"We're considering offering the electricity to a remote data processing center," says Hegedus. "We're also looking at integrating the power with other farm needs."

Whatever happens, Pfaltzgraff is sold on the concept.

"My dream would be to have a solar shelterbelt every 240 ft. across the field," he says. "I estimate they would take up about two acres of farmable ground out of every 160 acres. It would be well worth it."

Contact: FARM SHOW Followup, Longboard Power, Colorado Springs, Colo. (ph 719-232-0531; info@longboardpower.com; www.longboardpower.com) or Pfaltzgraff Farms, 12189 County Road 7, Haxtun, Colo. 80731 (ph 970-466-1887; roy@pfzfarm.com; www.pfzfarm.com).

They Made A Wheel Horse Road Grader

Kevin Hansen sent us photos and some info on a 1961 Wheel Horse that he and his grandson converted into a road grader. Hansen started out with a laugh, stating that this might not have the approval of some Wheel Horse purists.

Using the original Wheel Horse snow plow attachment, it was cut down to fit under the frame. The swivel is fully functional and used from behind the unit, with a lock release and lever for turning. A modified deck lift from an MTD mower is used to raise the blade.

Hansen was able to get black horse decals along with an "Industrial" decal in a font that worked, and they hand-painted the "Wheel-Horse" on the hood.

"I wouldn't do much different, considering we wanted to keep as many Wheel Horse parts as possible. To be useful, a ballast box should be added for more traction. It's more of a display and parade novelty for us."

Contact: FARM SHOW Followup, Kevin Hansen, Bellevue, Iowa 52031 (kahfarmer@yahoo.com).



Hansen and his grandson turned an old Wheel Horse tractor into a mini road grader.